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09/768,530	01/24/2001	Corinna Lee	ATI010001	2404

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EXAMINER

CRAIG, DWIN M

ART UNIT PAPER NUMBER

2123

DATE MAILED: 05/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/768,530

Applicant(s)

LEE, CORINNA

Examiner

Dwin M Craig

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12-30-2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-74 is/are pending in the application.
- 4a) Of the above claim(s) 3 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-6,10-18,20-30,34-42,44-56,60-68 and 70-74 is/are rejected.
- 7) ☒ Claim(s) 7-9, 19, 31-33, 43, 57-59 and 69 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

### DETAILED ACTION

1. **Claims 1, 2 and 4-74** have been presented for reconsideration in view of Applicants amended claim language and arguments. **Claim 3** has been cancelled.

#### Response to Arguments

2. Applicant's arguments and amended claim language submitted in the 12/30/2004 response have been fully considered. The Examiner's response is as follows.

2.1 Regarding the Applicant's response to the Examiner objection to Independent Claim 1.

The Examiner thanks the Applicant for correcting the typographical error and withdraws the earlier objection to Claim 1.

2.2 Regarding Applicants response to the 35 U.S.C. 103(a) rejections of independent Claims 1, 25 and 49.

Applicant argued, (*see page 13 of the response dated 12/30/2004*)

*Celi necessarily fails to disclose or suggest the limitations of receiving a graphics function call at a driver. Similarly, Celi also fails to disclose or suggest that the device drivers 50a, 50b convert such a function call to a native command set for execution by a native system (e.g., the graphics adapters 38a, 38b).*

The Examiner has found this argument to be persuasive. The Examiner notes that the Applicant's instant amendments to the claim language have changed the scope of the existing claims. The Examiner notes that the *Celi* reference did not disclose or suggest the conversion of the *graphics function calls* in a device driver.

Applicant further argued, (*see page 13 of the response dated 12/30/2004*)

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*Hsieh provides no disclose related to the storage of any item output by a driver, and thus fails to motivate the modification of Celi as proposed by the Examiner to purportedly render obvious the limitations of storing in a database the native command set resulting from the driver.*

The Examiner has found the argument to be persuasive and withdraws the earlier 35 U.S.C. 103(a) rejections of claims 1, 25 and 49. The Examiner notes that for a proper motivation it is required that the secondary teaching disclose a method for solving a similar problem as claimed by the Applicant, in this case a method for increasing performance in a computer graphics system.

**2.3** An updated search has revealed new art.

**Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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3. Independent **Claims 1, 25 and 49** and dependent **Claims 2, 4-6, 12-18, 20, 27-30, 34-42, 44, 51-56, 62-66, 68 and 70** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Rentschler et al. U.S. Patent 5,920,326** in view of “**Open GL Programming Guide**” by Mason Woo, Jackie Neider and Tom Davis, hereafter referred to as the *Woo et al.* reference.

3.1 As regards Independent **Claims 1, 25 and 49** the *Rentschler et al.* reference discloses receiving a graphics function call from a driver converting the graphics function call to a native command set for execution in the driver and capturing the native command set (**Col. 36 lines 55-67, Col. 37 lines 1-7**).

However, the *Rentschler et al.* reference does not expressly disclose storing a graphics command data in a database structure or the functional equivalent of a database structure *a display list*.

In the related art of computer graphics programming, the *Woo et al.* reference discloses storing command data packets in a database *or Display list* (**pages 251-276**).

It would have been obvious, to one of ordinary skill in the art, at the time the invention was made, to have combined the graphics function call methods of the *Rentschler et al.* reference with the display list methods of the *Woo et al.* reference because, *Display lists may improve performance since you can use them to store OpenGL command for later execution.* (**page 252 “Why Use Display Lists?”** *Woo et al.*) The Examiner notes that the *Woo et al.* reference is directed towards solving the same problem as the *Rentschler et al.* reference, improving graphics performance.

3.3 As regards dependent **Claims 27, 50 and 51** the *Rentschler et al.* reference discloses receiving multiple commands of the native command set and outputting commands

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(**Figures 21A and 21B**). As regards dependent **Claim 51** translating commands from one instruction set to another is the functional equivalent to hardware emulation.

3.4 As regards dependent **Claims 4, 28 and 54** the *Rentschler et al.* reference discloses a “draw” command (**Figures 21A and 21B**).

3.5 As regards dependent **Claims 5, 6, 29, 30, 34, 35, 55 and 56** the *Rentschlar et al.* reference discloses the functional equivalent of an *indexed* draw command (**Figure 8 Col. 26 lines 36-56**).

3.6 As regards dependent **Claims 12-16, 36-42, 52 and 62-66** the reference discloses the functional equivalent of a simulator, *using a model over time to represent an object* (**Col. 1 lines 17-25**) and different command sets (**Figures 21A and 21B**).

3.7 As regards dependent **Claims 17, 18, 20, 44, 67, 68 and 70** the *Rentschlar et al.* reference discloses a simulation (**Col. 1 Lines 17-25**) and mapping and un-mapping a native and non-native command set (**Figures 21A and 21B**).

4. Dependent **Claims 2, 26 and 50** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Rentschler et al. U.S. Patent 5,920,326** in view of “**Open GL Programming Guide**” by Mason Woo, Jackie Neider and Tom Davis, hereafter referred to as the *Woo et al.* reference and in further view of “*OFFICIAL NOTICE*”.

4.1 As regards dependent **Claims 2, 26 and 50** the *Rentschler et al.* reference does not expressly disclose a single file database however, “*OFFICIAL NOTICE*” it would have been obvious, to one of ordinary skill in the art, to create a Database using a single file. The reason an artisan would want to have a single file for a database or a “*display list*” is due to the fact that

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every time a file handle is created in a device driver or application, that file handle requires memory to be allocated and further, in a device driver that memory is *non-paged pool memory* which is in short supply and therefore needs to be used sparingly. So, an artisan would only use one file to save memory.

5. Dependent **Claims 10, 11, 10, 21-24, 45-47, 61 and 71-74** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Rentschler et al. U.S. Patent 5,920,326** in view of “**Open GL Programming Guide**” by Mason Woo, Jackie Neider and Tom Davis, hereafter referred to as the *Woo et al.* reference and in further view of **Hochmuth et al. U.S. Patent 6,337,689**.

5.1 As regards independent **Claims 1 and 49** please see paragraphs 3.1 above.

5.2 A regards dependent **Claims 4, 5 and 54 and 55** please see paragraphs 3.4 and 3.5 above.

5.3 As regards dependent **Claims 10, 11, 60 and 61** the *Rentschler et al.* reference does not expressly disclose *Vertex data*.

The *Hochmuth et al.* reference discloses *Vertex data* (**Figure 2 items 134 & 200, 202 and 204, Figure 3 Items 318, 312, 314, 316, 318, Figures 5A, 5C, 9 and 10 Col. 2 Lines 51-64**).

It would have been obvious, to one of ordinary skill in the art, at the time the invention was made to have used the vertex data formats in graphics adapters because, this is a well known in the graphics art method of organizing and presenting graphics commands and data as disclosed in the *Hochmuth et al.* reference (***Hochmuth et al.* Col. 2 Lines 18-30**).

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5.4 As regards dependent **Claims 21-24, 45-48 and 71-74** the *Rentschler et al.* reference does not expressly disclose commands for 2-d and 3-d graphics.

The *Houchmuth et al.* reference discloses graphics commands for 2-d and 3-d graphics (**Col. 2 Lines 51-65**).

It would have been obvious, to one of ordinary skill in the art, at the time the invention was made to have used the 2-d and 3-d data formats in graphics adapters because, this is a well known in the graphics art method of organizing and presenting graphics commands and data as disclosed in the *Hochmuth et al.* reference (***Hochmuth et al.* Col. 2 Lines 18-30**).

#### **Allowable Subject Matter**

6. **Claims 7-9, 19, 31-33, 43, 57-59 and 69** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### **Conclusion**

7. **Claims 1-74** have been presented for Examination. **Claims 1, 2, 4-6, 10-18, 20-30, 34-42, 44-56, 60-68 and 70-74** have been rejected. **Claims 7-9, 19, 31-33, 43, 57-59 and 69** have been objected to.

7.1 This action is **NON-FINAL**.

7.2 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dwain M Craig whose telephone number is (571) 272-3710. The examiner can normally be reached on 10:00 - 6:00 M-F.




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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Teska can be reached on (571)272-3716. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DMC

  
JEAN R. HOMERE  
PRIMARY EXAMINER